- 1. A lighting apparatus for emitting white light comprising:
 - a light source emitting radiation at from about 250 nm to about 550 nm; and
 - a phosphor composition radiationally coupled to the light source, the phosphor composition comprising ($Tb_{1-x-y-z-w}Y_xGd_yLu_zCe_w$) $_3M_rAl_{s-r}O_{12+\delta}$, where M is selected from Sc, In, Ga, Zn, or Mg, and where $0 < w \le 0.3$, $0 \le x < 1$, $0 \le y \le 0.4$, $0 \le z < 1$, $0 \le r \le 4.5$, $4.5 \le s \le 6$, and $-1.5 \le \delta \le 1.5$.
- 2. The lighting apparatus of claim 1, wherein the light source is a semiconductor light emitting diode (LED) emitting radiation having a wavelength in the range of from about 350 to about 550 nm.
- 3. The lighting apparatus of claim 2, wherein the LED comprises a nitride compound semiconductor represented by the formula $In_iGa_jAl_kN$, where $0 \le i$; $0 \le j$, $0 \le K$, and i + j + k = 1.
- 4. The lighting apparatus of claim 1, wherein the light source is an organic emissive structure.
- 5. The lighting apparatus of claim 1, wherein the phosphor composition is coated on the surface of the light source.
- 6. The lighting apparatus of claim 1, further comprising an encapsulant surrounding the light source and the phosphor composition.
- 7. The lighting apparatus of claim 1, wherein the phosphor composition is dispersed in the encapsulant.
- 8. The lighting apparatus of claim 1, further comprising a reflector cup.

- 9. The lighting apparatus of claim 1, wherein said phosphor composition comprises $(Tb_{0.57}Ce_{0.03}Y_{0.2}Gd_{0.2})_3Al_{4.9}O_{12+\delta}$.
- 10. The lighting apparatus of claim 1, wherein said phosphor composition further comprises one or more additional phosphor.
- The lighting apparatus of claim 10, wherein said one or more additional 11. phosphors are selected from the group consisting (Ba,Sr,Ca)₅(PO₄)₃(Cl,F,Br,OH):Eu²⁺,Mn²⁺,Sb³⁺; $(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+};$ $(Ba,Sr,Ca)BPO_5:Eu^{2+},Mn^{2+};$ 2SrO*0.84P₂O₅*0.16B₂O₃:Eu²⁺; $(Sr,Ca)_{10}(PO_4)_6*nB_2O_3:Eu^{2+};$ Sr₂Si₃O_{8*2}SrCl₂:Eu²⁺; Ba₃MgSi₂O₈:Eu²⁺; Sr₄Al₁₄O₂₅:Eu²⁺; BaAl₈O₁₃:Eu²⁺; $BaAl_8O_{13}:Eu^{2+};$ $2SrO-0.84P_2O_{5-0.16}B_2O_3:Eu^{2+};$ Sr₄Al₁₄O₂₅:Eu²⁺; (Ba,Sr,Ca)MgAl₁₀O₁₇:Eu²⁺,Mn²⁺; (Ba,Sr,Ca)₅(P0₄)₃(Cl,F,OH);Eu²⁺,Mn²⁺,Sb³⁺; $(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+}$ (Ba,Sr,Ca)Al₂O₄:Eu²⁺; $(Ba,Sr,Ca)NIgAI_{10}O_{17}:Eu^{-},INIn^{-};$ $(Ba,Sr,Ca)AI_{2}O_{4}:Eu^{-};$ $(Y,Gd,Lu,Sc,La)BO_{3}:Ce^{3+},Tb^{3+};$ $Ca_{8}Mg(SiO_{4})_{4}CI_{2}:Eu^{2+},Mn^{2+};$ (Ba,Sr,Ca)₂SiO₄:Eu²⁺; (Ba,Sr,Ca)₂(Mq,Zn)Si₂O₇:Eu²⁺: $(Sr,Ca,Ba)(Al,Ga,In)_2S_4:Eu^{2+};$ (Y,Gd,Tb,La,Sm,Pr, $Lu)_3(AI,Ga)_5O_{12}:Ce^{3+};$ (Ca,Sr)₈(Mg,Zn)(SiO₄)₄Cl₂: Eu^{2+},Mn^{2+} (CASI); $Na_2Gd_2B_2O_7:Ce^{3+},Tb^{3+}:$ $(Ba,Sr)_2(Ca,Mg,Zn)B_2O_6:K,Ce,Tb;$ $(Sr,Ca,Ba,Mg,Zn)_2P_2O_7:Eu^{2+},Mn^{2+}$ (SPP); Eu²⁺, Mn²⁺; $(Ca,Sr,Ba,Mg)_{10}(PO_4)_6(F,Cl,Br,OH)$: (Gd,Y,Lu,La)₂O₃:Eu³⁺,Bi³⁺; (Gd,Y,Lu,La)₂O₂S:Eu³⁺,Bi³⁺; (Gd,Y,Lu,La)VO₄:Eu³⁺,Bi³⁺; (Ca,Sr)S:Eu²⁺; SrY₂S₄:Eu²⁺; CaLa₂S₄:Ce³⁺; (Ca,Sr)S:Eu²⁺; 3.5MgO*0.5MgF₂*GeO₂:Mn⁴⁺; (Ba,Sr,Ca)MgP₂O₇:Eu²⁺,Mn²⁺;(Y,Lu)₂WO₆:Eu³+, Mo⁶⁺: (Ba,Sr,Ca)_xSi_yN_z:Eu²⁺.
- 12. The lighting apparatus of claim 1, further comprising a $(Tb,Y)_3Al_{4.9}O_{12}$ $\delta: Ce^{3+}$ phosphor wherein $-1 \le \delta \le 1$.

- 13. The lighting apparatus of claim 1, wherein said lighting apparatus has a CCT value from about 2500 to 8000.
- 14. The lighting apparatus of claim 1, wherein said lighting apparatus has a CRI value of greater than 60.
- 15. A lighting apparatus for emitting white light comprising:
 - a light source emitting radiation at from about 250 to about 550 nm; and
 - a phosphor composition radiationally coupled to the light source, the phosphor composition comprising $(RE_{1-x}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$, where RE is selected from a lanthanide ion or Y³⁺, A is selected from Mg, Ca, Sr, or Ba, B is selected from Mg and Zn, and where $0\le p\le 3$, $0\le q\le 3$, $2.5\le z\le 3.5$, $0\le x<1$, $0< y\le 0.3$, $-1.5\le \delta\le 1.5$.
- 16. The lighting apparatus of claim 15, wherein the light source is a semiconductor LED emitting radiation having a wavelength in the range of from about 350 to about 550 nm.
- 17. The lighting apparatus of claim 16, wherein the LED comprises a nitride compound semiconductor represented by the formula $In_iGa_iAl_kN$, where $0 \le i$; $0 \le K$, and i + j + k = 1.
- 18. The lighting apparatus of claim 15, wherein said light source is an organic emissive structure.
- 19. The lighting apparatus of claim 15, wherein the phosphor composition is coated on the surface of the light source.
- 20. The lighting apparatus of claim 15, further comprising an encapsulant surrounding the light source and the phosphor composition.

- 21. The lighting apparatus of claim 15, wherein the phosphor composition is dispersed in the encapsulant.
- 22. The lighting apparatus of claim 15, further comprising a reflector cup.
- 23. The lighting apparatus of claim 15, wherein said phosphor composition comprises (Lu_{0.955}Ce_{0.045})₂CaMg₂Si₃O₁₂.
- 24. The lighting apparatus of claim 15, wherein said phosphor composition comprises two or more distinct phosphors having the formula (RE_{1-x}Sc_xCe_y)₂A_{3-p}B_pSi_{z-q}Ge_qO_{12+ δ}, where RE is selected from a lanthanide ion or Y³⁺, A is selected from Mg, Ca, Sr, or Ba, B is selected from Mg and Zn, and where $0 \le p \le 3$, $0 \le q \le 3$, $2.5 \le z \le 3.5$, $0 \le x < 1$, $0 < y \le 0.3$, $-1.5 \le \delta \le 1.5$, wherein each of said distinct phosphors has a different emission spectrum.
- 25. The lighting apparatus of claim 15, wherein said phosphor composition further comprises one or more additional phosphors.
- 26. The lighting apparatus of claim 25, wherein said one or more additional phosphors are selected from the consisting group of (Ba,Sr,Ca)₅(PO₄)₃(CI,F,Br,OH):Eu²⁺,Mn²⁺,Sb³⁺: $(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+};$ (Ba,Sr,Ca)BPO₅:Eu²⁺,Mn²⁺: $(Sr_1Ca)_{10}(PO_4)_6*nB_2O_3:Eu^{2+}$ 2SrO*0.84P₂O₅*0.16B₂O₃;Eu²⁺; $Sr_2Si_3O_{8^2}SrCl_2:Eu^{2^+}; Ba_3MgSi_2O_8:Eu^{2^+}; Sr_4Al_{14}O_{25}:Eu^{2^+}; BaAl_8O_{13}:Eu^{2^+};$ Sr₄Al₁₄O₂₅:Eu²⁺; BaAl₈O₁₃:Eu²⁺; 2SrO-0.84P₂O_{5-0.16}B₂O₃:Eu²⁺; $(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+};$ $(Ba,Sr,Ca)_5(P0_4)_3(Cl,F,OH):Eu^{2+},Mn^{2+},Sb^{3+};$ (Ba,Sr,Ca)MgAl₁₀O₁₇:Eu²⁺.Mn²⁺: (Ba,Sr,Ca)Al₂O₄:Eu²⁺; $(Y,Gd,Lu,Sc,La)BO_3:Ce^{3+},Tb^{3+};$ $Ca_8Mg(SiO_4)_4Cl_2:Eu^{2+},Mn^{2+};$ (Ba,Sr,Ca)₂SiO₄:Eu²⁺; $(Ba,Sr,Ca)_2(Mg,Zn)Si_2O_7:Eu^{2+};$ $(Sr,Ca,Ba)(Al,Ga,In)_2S_4:Eu^{2+};$ (Y,Gd,Tb,La,Sm,Pr, $Lu)_3(Al,Ga)_5O_{12}:Ce^{3+};$ (Ca,Sr)₈(Mg,Zn)(SiO₄)₄Cl₂: Eu^{2+},Mn^{2+} (CASI);

 $\begin{aligned} \text{Na}_2\text{Gd}_2\text{B}_2\text{O}_7\text{:}\text{Ce}^{3+}\text{,}\text{Tb}^{3+}\text{;} & (\text{Ba},\text{Sr})_2(\text{Ca},\text{Mg},\text{Zn})\text{B}_2\text{O}_6\text{:}\text{K},\text{Ce},\text{Tb};\\ & (\text{Sr},\text{Ca},\text{Ba},\text{Mg},\text{Zn})_2\text{P}_2\text{O}_7\text{:}\text{Eu}^{2+},\text{Mn}^{2+} & (\text{SPP});\\ & (\text{Ca},\text{Sr},\text{Ba},\text{Mg})_{10}(\text{PO}_4)_6(\text{F},\text{CI},\text{Br},\text{OH})\text{:} & \text{Eu}^{2+},\text{Mn}^{2+};\\ & (\text{Gd},\text{Y},\text{Lu},\text{La})_2\text{O}_3\text{:}\text{Eu}^{3+},\text{Bi}^{3+}; & (\text{Gd},\text{Y},\text{Lu},\text{La})_2\text{O}_2\text{S:}\text{Eu}^{3+},\text{Bi}^{3+};\\ & (\text{Gd},\text{Y},\text{Lu},\text{La})\text{VO}_4\text{:}\text{Eu}^{3+},\text{Bi}^{3+}; & (\text{Ca},\text{Sr})\text{S:}\text{Eu}^{2+}; & \text{SrY}_2\text{S}_4\text{:}\text{Eu}^{2+}; & \text{CaLa}_2\text{S}_4\text{:}\text{Ce}^{3+};\\ & (\text{Ca},\text{Sr})\text{S:}\text{Eu}^{2+}; & 3.5\text{MgO}^*\text{0.5}\text{MgF}_2^*\text{GeO}_2\text{:}\text{Mn}^{4+};\\ & (\text{Ba},\text{Sr},\text{Ca})\text{MgP}_2\text{O}_7\text{:}\text{Eu}^{2+},\text{Mn}^{2+}; & (\text{Y},\text{Lu})_2\text{WO}_6\text{:}\text{Eu}^3+, & \text{Mo}^{6+};\\ & (\text{Ba},\text{Sr},\text{Ca})_x\text{Si}_y\text{N}_z\text{:}\text{Eu}^{2+}. & \end{aligned}$

- The lighting apparatus of claim 15, further comprising a (Tb,Y)₃Al_{4.9}O₁₂₋
 δ:Ce³⁺ phosphor wherein -1≤δ≤1.
- 28. The lighting apparatus of claim 15, wherein $2.9 \le z \le 3.1$.
- 29. The lighting apparatus of claim 15, wherein $0 \le q/(z-q) \le 0.5$.
- 30. The lighting apparatus of claim 15, wherein A is Ca.
- 31. The lighting apparatus of claim 15, wherein A is Mg.
- 32. The lighting apparatus of claim 15, wherein B is Mg.
- 33. The lighting apparatus of claim 15, wherein $y \le 0.05$.
- 34. The lighting apparatus of claim 15, wherein said lighting apparatus has a CCT value from about 2500 to 8000.
- 35. The lighting apparatus of claim 15, wherein said lighting apparatus has a CRI value of greater than 60.
- 36. A phosphor composition comprising $(Tb_{1-x-y-z-w}Y_xGd_yLu_zCe_w)_3M_rAl_{s-r}O_{12+\delta}$, where M is selected from Sc, In, Ga, Zn, or Mg, and where $0 \le 0.3$, $0 \le x \le 1$, $0 \le y \le 0.4$, $0 \le z \le 1$, $0 \le r \le 4.5$, $4.5 \le s \le 6$, and $-1.5 \le \delta \le 1.5$.

- 37. The phosphor composition according to claim 36 comprising (Tb_{0.57}Ce_{0.03}Y_{0.2}Gd_{0.2})₃Al_{4.9}O_{12+δ}.
- 38. The phosphor composition according to claim 36, wherein said phosphor composition is capable of absorbing the radiation emitted by a light source emitting from 400-500 nm and emitting radiation that, when combined with said radiation from said light source, produces white light.
- 39. A phosphor composition comprising $(RE_{1-x}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$, where RE is selected from a lanthanide ion or Y^{3+} , A is selected from Mg, Ca, Sr, or Ba, B is selected from Mg and Zn, and where $0 \le p \le 3$, $0 \le q \le 3$, $2.5 \le z \le 3.5$, $0 \le x < 1$, $0 < y \le 0.3$, $-1.5 \le \delta \le 1.5$.
- 40. The phosphor composition according to claim 39, wherein 2.9 ≤z ≤3.1.
- 41. The phosphor composition according to claim 39, wherein $0 \le q/(z-q) \le 0.5$.
- 42. The phosphor composition according to claim 39, wherein A is Ca.
- 43. The phosphor composition according to claim 39, wherein A is Mg.
- 44. The phosphor composition according to claim 39, wherein B is Mg.
- 45. The phosphor composition according to claim 39, wherein $y \le 0.05$.
- 46. The phosphor composition according to claim 39 comprising $(Lu_{0.955}Ce_{0.045})_2CaMg_2Si_3O_{12}$.
- 47. The phosphor composition according to claim 39, wherein said phosphor composition is capable of absorbing the radiation emitted by

- a light source emitting from 400-500 nm and emitting radiation that, when combined with said radiation from said light source, produces white light.
- 48. A phosphor blend including a first phosphor selected from the group consisting of $(Tb,Y)_3Al_{4.9}O_{12-\delta}:Ce^{3+}$ wherein $-1 \le \delta \le 1$ and $(Tb_{1-x-y-z-w}Y_xGd_yLu_zCe_w)_3M_rAl_{s-r}O_{12+\delta}$, where M is selected from Sc, In, Ga, Zn, or Mg, and where $0 \le 0.3$, $0 \le x < 1$, $0 \le y \le 0.4$, $0 \le z < 1$, $0 \le r \le 4.5$, $4.5 \le s \le 6$, and $-1.5 \le \delta \le 1.5$, and a second phosphor having the formula $(RE_{1-x}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$, where RE is selected from a lanthanide ion or Y^{3+} , A is selected from Mg, Ca, Sr, or Ba, B is selected from Mg and Zn, and where $0 \le p \le 3$, $0 \le q \le 3$, $2.5 \le z \le 3.5$, $0 \le x < 1$, $0 < y \le 0.3$, $-1.5 \le \delta \le 1.5$.
- 49. A phosphor composition comprising $(Ca_{1-x-y-z}Sr_xBa_yCe_z)_3(Sc_{1-a-b}Lu_aD_c)_2Si_{n-w}Ge_wO_{12+\delta}$, where D is either Mg or Zn, $0 \le x < 1$, $0 \le y < 1$, $0 < z \le 0.3$, $0 \le a \le 1$, $0 \le c \le 1$, $0 \le w \le 3$, $2.5 \le n \le 3.5$, and $-1.5 \le \delta \le 1.5$.
- 50. The phosphor composition according to claim 49, comprising Ca₃Sc₂(Si_xGe_{1-x})₃O₁₂:Ce³⁺, wherein x is from 0.67 to 1.0.
- 51. The phosphor composition according to claim 50, comprising Ca₃Sc₂Si₃O₁₂:Ce³⁺.
- 52. The phosphor composition according to claim 50, comprising $(Ca_{0.99}Ce_{0.01})_3Sc_2Si_3O_{12}:Ce^{3+}$.
- 53. The phosphor composition according to claim 49, wherein said phosphor composition is capable of absorbing radiation having a wavelength of from about 250 to about 490 nm and emitting radiation with an emission maximum at about 505 nm.
- 54. The phosphor composition according to claim 49, wherein $2.9 \le n \le 3.1$.

- 55. The phosphor composition according to claim 49, wherein 0≤w/(n-w) ≤0.5.
- 56. The phosphor composition according to claim 49, wherein $x \le 0.1$.
- 57. The phosphor composition according to claim 49, wherein $y \le 0.1$.
- 58. The phosphor composition according to claim 49, wherein $z \le 0.05$.
- 59. The phosphor composition according to claim 49, wherein $a \le 0.10$.
- 60. The phosphor composition according to claim 49, comprising $Ca_3Sc_2(Si_xGe_{1-x})_3O_{12}:Ce^{3+}$, wherein x is from 0.67 to 1.0.
- 61. The phosphor composition according to claim 49, comprising Ca₃Sc₂Si₃O₁₂:Ce³⁺.
- 62. The phosphor composition according to claim 49, comprising (Ca_{0.99}Ce_{0.01})₃Sc₂Si₃O₁₂:Ce³⁺.
- 63. The phosphor composition according to claim 49, further comprising $(Tb_{1-x-y-z-w}Y_xGd_yLu_zCe_w)_3M_rAl_{s-r}O_{12+\delta}$, where M is selected from Sc, In, Ga, Zn, or Mg, and where $0 < w \le 0.3$, $0 \le x < 1$, $0 \le y \le 0.4$, $0 \le z < 1$, $0 \le r \le 4.5$, $4.5 \le s \le 6$, and $-1.5 \le \delta \le 1.5$; and $(RE_{1-x}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$, where RE is selected from a lanthanide ion or Y^{3+} , A is selected from Mg, Ca, Sr, or Ba, B is selected from Mg and Zn, and where $0 \le p \le 3$, $0 \le q \le 3$, $2.5 \le z \le 3.5$, $0 \le x < 1$, $0 < y \le 0.3$, $-1.5 \le \delta \le 1.5$.
- 64. A lighting apparatus comprising a light source emitting radiation having an emission wavelength of from about 250 to about 500 nm and a phosphor composition comprising (Ca_{1-x-y-z}Sr_xBa_yCe_z)₃(Sc_{1-a-xy-z}Sr_xBa_yCe_z)

- $_{b}Lu_{a}D_{c})_{2}Si_{n-w}Ge_{w}O_{12+\delta}$, where D is either Mg or Zn, $0 \le x < 1$, $0 \le y < 1$, $0 \le z \le 0.3$, $0 \le a \le 1$, $0 \le c \le 1$, $0 \le w \le 3$, $2.5 \le n \le 3.5$, and $-1.5 \le \delta \le 1.5$.
- The lighting apparatus of claim 64, wherein said lighting apparatus is a 65. white light emitting device.
- 66. The lighting apparatus of claim 64, further comprising one or more additional phosphors.
- 67. The lighting apparatus of claim 66, wherein said one or more additional phosphors are selected from the consisting group $(Ba,Sr,Ca)_5(PO_4)_3(Cl,F,Br,OH):Eu^{2+},Mn^{2+},Sb^{3+};$

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 (Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+}; \\ (Sr,Ca)_{10}(PO_4)_6*nB_2O_3:Eu^{2+}; \\ (Sr,Ca)_{10}(PO_4)_6*nB_2O_5:Eu^{2+}; \\ (Sr,Ca)_7*nB_2O_5:Eu^{2+}; \\ (Sr,Ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (Ba,Sr,Ca)BPO<sub>5</sub>:Eu<sup>2+</sup>,Mn<sup>2+</sup>:
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$$(Sr,Ca)_{10}(PO_4)_6*nB_2O_3:Eu^{2+};$$
 $2SrO*0.84P_2O_5*0.16B_2O_3:Eu^{2+};$

$$Sr_2Si_3O_{8^*2}SrCl_2:Eu^{2^+};\ Ba_3MgSi_2O_8:Eu^{2^+};\ Sr_4Al_{14}O_{25}:Eu^{2^+};\ BaAl_8O_{13}:Eu^{2^+};$$

$$Sr_4Al_{14}O_{25}:Eu^{2+}; \qquad BaAl_8O_{13}:Eu^{2+}; \qquad 2SrO-0.84P_2O_{5-0.16}B_2O_3:Eu^{2+};$$

 $(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+};$

(Ba,Sr,Ca)₅(P0₄)₃(Cl,F,OH):Eu²⁺,Mn²⁺,Sb³⁺;

$$(Ba,Sr,Ca)MgAl_{10}O_{17}:Eu^{2+},Mn^{2+};$$
 $(Ba,Sr,Ca)Al_2O_4:Eu^{2+};$

$$(Y,Gd,Lu,Sc,La)BO_3:Ce^{3+},Tb^{3+};$$
 $Ca_8Mg(SiO_4)_4Cl_2:Eu^{2+},Mn^{2+};$

$$(Ba,Sr,Ca)_2SiO_4:Eu^{2+};$$
 $(Ba,Sr,Ca)_2(Mg,Zn)Si_2O_7:Eu^{2+};$

$$(Sr,Ca,Ba)(Al,Ga,In)_2S_4:Eu^{2+};$$
 $(Y,Gd,Tb,La,Sm,Pr,$

$$Lu)_{3}(Al,Ga)_{5}O_{12}:Ce^{3+}; \quad (Ca,Sr)_{8}(Mg,Zn)(SiO_{4})_{4}Cl_{2}: \quad Eu^{2+},Mn^{2+} \quad (CASI);$$

$$Na_{2}Gd_{2}B_{2}O_{7}:Ce^{3+},Tb^{3+}; \\ (Ba,Sr)_{2}(Ca,Mg,Zn)B_{2}O_{6}:K,Ce,Tb; \\$$

$$(Sr,Ca,Ba,Mg,Zn)_2P_2O_7:Eu^{2+},Mn^{2+}$$
 (SPP);

$$(Ca,Sr,Ba,Mg)_{10}(PO_4)_6(F,CI,Br,OH)$$
: Eu^{2+},Mn^{2+} ;

$$(Gd,Y,Lu,La)_2O_3:Eu^{3+},Bi^{3+};$$
 $(Gd,Y,Lu,La)_2O_2S:Eu^{3+},Bi^{3+};$

$$(Gd,Y,Lu,La)VO_4:Eu^{3+},Bi^{3+}; (Ca,Sr)S:Eu^{2+}; SrY_2S_4:Eu^{2+}; CaLa_2S_4:Ce^{3+};$$

$$(Ca,Sr)S:Eu^{2+};$$
 3.5MgO*0.5MgF₂*GeO₂:Mn⁴⁺;

$$(Ba,Sr,Ca)MgP_2O_7:Eu^{2+},Mn^{2+};$$
 $(Y,Lu)_2WO_6:Eu^{3+},$ $Mo^{6+};$ $(Ba,Sr,Ca)_xSi_vN_z:Eu^{2+}.$

- 68. The lighting apparatus of claim 64, further comprising at least one phosphor selected from the group consisting of $(Tb_{1-x-y-z-w}Y_xGd_yLu_zCe_w)_3M_rAl_{s-r}O_{12+\delta}$, where M is selected from Sc, In, Ga, Zn, or Mg, and where $0 < w \le 0.3$, $0 \le x < 1$, $0 \le y \le 0.4$, $0 \le z < 1$, $0 \le r \le 4.5$, $4.5 \le s \le 6$, and $-1.5 \le \delta \le 1.5$; $(RE_{1-x}Sc_xCe_y)_2A_{3-p}B_pSi_{z-q}Ge_qO_{12+\delta}$, where RE is selected from a lanthanide ion or Y^{3+} , A is selected from Mg, Ca, Sr, or Ba, B is selected from Mg and Zn, and where $0 \le p \le 3$, $0 \le q \le 3$, $2.5 \le z \le 3.5$, $0 \le x < 1$, $0 < y \le 0.3$, $-1.5 \le \delta \le 1.5$; and $(Tb, Y)_3Al_4 = 0$
- 69. The lighting apparatus of claim 64, wherein the light source is a semiconductor light emitting diode.
- 70. The lighting apparatus of claim 64, wherein said lighting apparatus has a CRI value of greater than 60.
- 71. The lighting apparatus of claim 64, wherein said phosphor comprises $Ca_3Sc_2(Si_xGe_{1-x})_3O_{12}:Ce^{3+}$, wherein x is from 0.67 to 1.0.
- 72. The lighting apparatus of claim 64, wherein said phosphor comprises $Ca_3Sc_2Si_3O_{12}:Ce^{3+}$.
- 73. The lighting apparatus of claim 64, wherein said phosphor comprises (Ca_{0.99}Ce_{0.01})₃Sc₂Si₃O₁₂:Ce³⁺.